United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

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1-1-95-I-1018

June 20, 1995

Memorandum

To: Regional Director, Bureau of Reclamation
Sacramento, California

From: Field Supervisor, Ecological Services
Sacramento Field Office, Sacramento, California (ES)

Subject: Clarification to Biological Opinion on Effects of the Long-term Operation of the Federal and State Water Projects on Delta Smelt (File Reference 1-1-94-F-70)

In response to discussions with the Solano County Water Agency and the Department of Water Resources, the following clarification is made to the March 6, 1995, biological opinion concerning the effects of the long-term operation of the Federal and State Water Projects on delta smelt (*Hypomesus transpacificus*). This clarification relates to the North Bay Aqueduct diversion at Barker Slough, and restoration of Prospect Island on page 20 of the biological opinion.

The U.S. Fish and Wildlife Service (Service) recognizes that (1) increases in delta smelt larval production in the Barker/Lindsey/Cache slough-Prospect Island areas, (2) changes in overall delta smelt Delta distribution and abundance, or (3) changes in the amounts of diversion necessary to fulfill future requirements for North Bay Aqueduct, may necessitate reinitiation of consultation. During reinitiation of consultation, the Service evaluates available monitoring information to determine the numbers of larval delta smelt in the project area and the changes in overall delta smelt Delta distribution and abundance. The Service's evaluation also includes changes in North Bay Aqueduct operations provided by the project proponent. The need for adjustment of the March 6, 1994, take limit for the Barker Slough diversion resulting from any of the above changed conditions, including implementation of the Prospect Island Project, will be determined as needed.

The Service supports the Prospect Island Project, a federal project to create shallow-water habitat in the Delta. Our support is based on recommendations made in the December 8, 1994, draft Delta Native Fishes Recovery Plan (Recovery Plan). Prospect Island is located about eight miles from the Barker Slough Pumping Plant of the North Bay Aqueduct. One of the reasons for designing Prospect Island as shallow-water habitat is creation of spawning habitat for delta smelt and other native fish.

Increased delta smelt larval production may occur as a result of increases in shallow-water habitat associated with Prospect Island. These increases may cause additional restrictions on pumping at the Barker Slough diversion with the requirements in the March 6, 1995, biological opinion. It is the Service's intent that increased larval production associated with Prospect

Island not cause additional pumping restrictions when risk to the overall population of delta smelt is low. In the 1994 draft Recovery Plan, wide distribution and high numbers of rearing juveniles have been shown to lower risk to delta smelt. If these conditions exist, no additional Barker Slough pumping restrictions will occur due to increased larval production from Prospect Island.

In the Service's April 23, 1995, Planning Aid Report for the Prospect Island Restoration Project, the following three statements are made:

(1) One potential concern about the project is its location in the general vicinity of the Barker Slough Pumping Plant (BSPP). BSPP is a diversion located on Barker Slough, about 8 miles from the confluence of Cache, Lindsey, and Miner Sloughs with the SRDWSC. The issue is the extent to which the benefit in terms of increased fish production might be offset by increased entrainment into this diversion. A related concern, expressed by the Department of Water Resources, is that such an increase in loss of listed fishes at BSPP could result in pumping curtailment, under the current Biological Opinion.

(2) Regionally, fish which spawn closest to the diversion (i.e. in Lindsey Slough) would produce progeny that are at the greatest risk of entrainment. Delta smelt generally are attracted to spawn in tidally-influenced areas such as shallow-water wetlands and dead-end sloughs in particular. We anticipate that the combination of a local increase in tidal prism (i.e., acre-feet of water exchanged during the tidal cycle) over Prospect Island and the presence of suitable habitat, would provide a strong attraction stimulus to fish into this site which would otherwise have spawned in the other sloughs, including Lindsey Slough. If this is the case, the project would actually reduce smelt losses that would occur without the project, by redistributing those fish attracted to the confluence of the various sloughs to an area of lower risk.

(3) It is possible but unlikely, in our opinion, that a large proportion of the delta smelt population from throughout the Delta would migrate to Prospect Island to spawn as a consequence of the restoration. Rather, we expect that the redistribution of the local population component will be placed in a more favorable environment for the early life history stages. Nevertheless, ongoing monitoring under the Interagency Ecological Program would likely be sufficient to detect any large scale difference in adult population, estimate unanticipated loss, and implement appropriate corrective measures. In addition, the restoration would remove the present unscreened diversion on Prospect Island, which currently withdraws on the order of several thousand acre-feet to support crops. Also, the breaching of Miner Slough is expected to create a positive flow which would augment flushing of fish out of the island and towards the confluence. Thus, no net adverse impact on listed species is anticipated at this time.

On page 20, number 4(b), of the March 6, 1995, biological opinion, a monitoring plan is discussed to allow estimation of delta smelt numbers and distribution in the Barker/Lindsey/Cache slough -Prospect Island areas. The Service recommends that a monitoring station be placed in an area downstream of the proposed southern Prospect Island levee breach in 1996 to collect

baseline data on delta smelt larval presence. This monitoring station will allow an estimation of increased larval productivity due to Prospect Island shallow-water habitat creation.

If you have questions regarding this memo, please contact Robert Pine, at 916-979-2752.

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